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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,537	02/28/2007	Alexander Fridman	DXPZ-0005 / 03-0494D	6456
23377 7590 06/03/2011 WOODCOCK WASHBURN LLP CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			EXAMINER MAYEKAR, KISHOR	
			ART UNIT 1759	PAPER NUMBER
			NOTIFICATION DATE 06/03/2011	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eofficemonitor@woodcock.com

Office Action Summary	Application No. 10/560,537	Applicant(s) FRIDMAN ET AL.	
	Examiner KISHOR MAYEKAR	Art Unit 1759	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-36 is/are pending in the application.
- 4a) Of the above claim(s) 12-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment of 6 April 2011 has been entered. Claims 1 and 10 have been amended. Claims 18-25 have been withdrawn. Claims 1-10 are pending in this application with claim 1 and 10 being sole independent claim.

2. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Oath/Declaration

3. The oath or declaration stands defective, for reasons as of record. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

Claim Rejections - 35 USC § 102 and § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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5. Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Applicant's admission. Applicant admits in l. 8-24 of page 3 of the specification the provision of the recited axial flow apparatus, circumferential flow apparatus and inlet in a vortex reactor.

6. Claims 1-7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nilsson (US Pat. No. 5,486,269), a reference cited by Applicant. Nilsson's invention is directed to a reactor for thermally decomposing a carbonaceous raw material. With respect to claim 1, Nilsson discloses a reactor comprises the recited frustum-shaped portion, axial flow apparatus, circumferential flow apparatus, and inlet (Fig. 1; c. 3, l. 18-36; and c. 4, l. 11-17). As to the limitation of the axial gas flow apparatus configured to provide an axial flow directed upward, Nilsson's device read on it when turning his device to 180°. If not, there is nothing in Nilsson's teachings of preventing the operation of the device in the reverting to 180°, absent of evidence to the contrary.

As to the subject matter of each of claims 2-5, Nilsson discloses in Fig. 1 the provision of a nozzle 11 which reads on the recited flow restrictor.

As to the subject matter of each of claims 6 and 7, the recited gas supply is inherent in Nilsson's teachings

7. Claims 1-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Latham (US Pat. No. 3,344,051). With respect to claim 1, Latham discloses in Fig. 3 a reactor comprising the recited frustum shape portion (26,30),

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axial flow apparatus (62), and circumferential flow apparatus from a vortex comprising a carbon black feed stock and an inert carrier gas (c. 2, l. 22-32), and an inlet (70). If there is a difference between Latham and claim 1, it will be the inlet for solid particulate. However, the intended use of the inlet cannot be given any patentable weight in a claimed device. Further, it appears that carbon black might recycle with the recycle hydrogen gas.

As to the subject matter of each of claims 2 and 3, it is inherently in Latham's teachings with the feedstock injection pipe (62) where the flow restrictor is pipe channel.

As to the subject matter of claim 4, the circumferential flow as shown in Fig. 3 is close to below the restrictor. If not, the placement would have been within the level of ordinary skill in the art

As to the subject matter of claim 5, Latham discloses it with a nozzle (69) when a liquid is the feedstock.

As to the subject matter of each of claims 6 and 7, it appears from Fig. 3 that the pipe (58) is smaller than return pipe (46) which is equivalent to constriction of flow (nozzle).

As to the subject matter of each of claims 8-10, Latham discloses it in Fig. 3 where the effect of an electric arc is to generate an plasma arc (c. 1, l. 14-24).

8. Claims 1-3, 6 and 7 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Foret (US 7,622,693 B2). With respect to claim 1, Foret discloses a vortex reactor comprising the recited frustum-shaped portion, circumferential flow apparatus and inlet (Fig. 6). As to the recited axial flow apparatus, Foret

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discloses it in Fig. 5 where the reactor is shaped of a cyclone separator (c. 19, l. 42-48). As such, the selection for the gas A to be axial to the reaction chamber would be within level of ordinary skill in the art.

As to the subject matter of each of claims 2 and 3, Foret's Fig. 5 shows it with a flow restrictor.

Response to Arguments

9. Applicant's arguments filed 6 April 2011 have been fully considered but they are not persuasive because of new ground of rejections as set forth in the paragraphs above.

Conclusion

10. Claims 1-10 are rejected.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a)

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will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KISHOR MAYEKAR whose telephone number is (571)272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Barton can be reached on (571) 272-1307. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kishor Mayekar/
Primary Examiner, Art Unit 1759